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10/596,097	05/30/2006	Mitsuru Ueda	36856.1440	1870

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EXAMINER	
CHEN, XIAOLIANG	
ART UNIT	PAPER NUMBER
2841	

NOTIFICATION DATE	DELIVERY MODE
07/12/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/596,097	UEDA ET AL.	
	Examiner	Art Unit	
	Xiaoliang Chen	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Amendment

1. Acknowledgement is made of Amendment filed 06-22-10.

2. Claims 14 and 17 are amended.

3. Claims 1-13 and 21 are canceled.

Response to Arguments

4. Since claim 17 is amended, the claim rejection of claim 17 under 35 U.S.C. 112, second paragraph, has been withdrawn.

5. Applicant's arguments filed 06-25-10 have been fully considered but they are not persuasive.

A. For the newly amended parts of claim 14 is still under disclosure of Sakai (See detailed rejection below).

B. Applicant argues that Murai et al. does not teach "the area of the second land is larger than the area of the first land" in claim 14.

This argument is not persuasive because

Since Alcoe teaches a device wherein the area of the second land (25, fig 1-1A) is larger than the area of the first land (29, fig. 1-1A), Murai et al. does not need to teach the same limitation again.

C. Applicant argues that Alcoe does not teach "laminating a plurality of ceramic sheets such that the first land in one of the plurality of ceramic sheets is

directly and electrically connected to the second land in another of the plurality of ceramic sheets through the via hole formed in the one of the plurality of ceramic sheets to obtain a laminate" in claim 14.

Since the main reference of Sakai disclose laminating a plurality of ceramic sheets (the ceramic sheets are laminated together [0017]) such that the first land in one of the plurality of ceramic sheets is directly and electrically connected to the second land in another of the plurality of ceramic sheets through the via hole formed in the one of the plurality of ceramic sheets (the connecting land is positioned at an end of the line conductor, i.e., the end of the line conductor is connected to the via-hole conductor [0037], fig. 2) to obtain a laminate (the ceramic green sheets are laminated together [0017]), Alcoe does not need to teach the same limitation again.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 14-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai (US20010026435) in view of Murai et al. (SU6285116) and Alcoe (US7087846).

Re Claim 14, Sakai show and disclose

A manufacturing method for a laminated ceramic electronic component, comprising the steps of:

screen printing (screen printing [0021]) a coil conductor pattern (line conductor 26, fig. 2) having a first land (29, fig. 1, left end of 26, fig. 2) at one end of the coil conductor pattern and a second land (29, right end of 26, fig. 2) at the other end of the coil conductor pattern on the surface of a ceramic sheet (the ceramic sheet [0017]) having a hole (hole for 25, fig. 2) for a via hole (via hole 25, fig. 2) formed therein by using a conductive material (the conductive paste is filled into the through-hole [0025]) such that the first land covers the hole for via hole (fig. 1);

filling the conductive material in the hole for the via hole (the conductive paste is filled into the through-hole [0025]); and

laminating a plurality of ceramic sheets (the ceramic sheets are laminated together [0017]) such that the first land in one of the plurality of ceramic sheets is directly and electrically connected to the second land in another of the plurality of

ceramic sheets through the via hole formed in the one of the plurality of ceramic sheets (fig. 2, the connecting land is positioned at an end of the line conductor, i.e., the end of the line conductor is connected to the via-hole conductor [0037]) to obtain a laminate (fig. 2, the ceramic green sheets are laminated together [0017]);

an area of the via hole is less than area of the first land and an area of the second land (connecting land having a diameter greater than the diameter of the via-hole conductor [ABSTRACT]);

Sakai does not disclose

1) simultaneously filling the conductive material in the hole during the step of screen printing the coil conductor pattern;

2) the area of the second land is larger than the area of the first land.

Murai teaches a device wherein

1) simultaneously filling the conductive material in the hole during the step of screen printing the coil conductor pattern (the Ag/Pd paste is embedded in the through hole simultaneously with the screen printing of the coil pattern [col. 5, line 47]);

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to simultaneously filling the conductive material in the hole while screen printing the coil conductor pattern as taught by Murai in the electronic device of Sakai, in order to simplify and speed up the process of the electronic device.

Alcoe teaches a device wherein

2) the area of the second land (25, fig 1 and fig. 1A) is larger than the area of the first land (29, fig 1 and fig. 1A).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a larger second land for a conductor as taught by Alcoe in the electronic device of Sakai, in order to connect to larger size via hole, and in order to be able to allow slight variations in alignment of the larger via (21, fig. 1 and fig. 1A) with the land when the layers laminated together in the electronic device.

Re Claim 15, Sakai show and disclose

The manufacturing method for a laminated ceramic electronic component according to Claim 14, wherein the second land extends from a projection plane of the first land to a projection plane of the coil conductor pattern (both lands projected from two ends 26 of the coil conductor pattern, fig. 1-2);

Re Claim 16, Sakai and Alcoe disclose

The manufacturing method for a laminated ceramic electronic component according to Claim 14, wherein the area of the second land is about 1.10 to about 2.25 times as wide as the area of the first land (fig. 2, Alcoe).

Re Claim 17, Sakai shoe and disclose

The manufacturing method for a laminated ceramic electronic component according to Claim 14,

wherein the coil conductor pattern is printed (by printing, a line conductor is formed [0016]) on the ceramic sheet (the ceramic sheet [0017]) having the hole (hole of 25, fig. 1) for the via hole (via hole of 25, fig 2) formed therein and the hole for the via hole is filled with the conductive material (the conductive paste is filled into the through-hole [0025]),

Sakai does not disclose

the printing and filling without providing a carrier film on a back surface of the ceramic sheet;

Murai teaches a device wherein

the printing and filling (the Ag/Pd paste is embedded in the through hole simultaneously with the screen printing of the coil pattern [col. 5, line 47]) without providing a carrier film on a back surface of the ceramic sheet;

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to simultaneously filling the conductive material in the hole while screen printing the coil conductor pattern without using a carrier film as taught by Murai in the electronic device of Sakai, in order to simplify the printing and filling processes and reduce the cost of the electronic device.

Re Claim 18, Sakai and Alcoe disclose

The manufacturing method for a laminated ceramic electronic component according to Claim 14, arranging the coil conductors on the plurality of ceramic sheets (the ceramic sheet [0017], fig. 2),

Sakai does not disclose

arranging the coil conductors on the plurality of ceramic sheets so as to define a spiral coil.

Murai teaches a device wherein

arranging the internal conductors on the plurality of ceramic sheets so as to define a spiral coil (spiral coil, fig. 6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the spiral coil conductor pattern as taught by Murai in the electronic device of Sakai, in order to form and define the shape of a spiral, or a loop coil conductor inside the laminated device (Murai et al., col. 2, line 4).

Re Claim 19, Sakai show and disclose

The manufacturing method for a laminated ceramic electronic component according to Claim 18, wherein terminal ends of the spiral coil define lead-out electrodes (27, fig. 2);

Re Claim 20, Sakai and Alcoe disclose

The manufacturing method for a laminated ceramic electronic component according to Claim 14,

Sakai does not disclose

providing two additional ceramic sheets which do not include any internal conductors printed therein; disposing one of the two additional ceramic sheets on

an upper surface of the laminate; and disposing the other of the two additional ceramic sheets on a lower surface of the laminate.

Murai teaches a device wherein

providing two additional ceramic sheets (top and bottom sheets, fig. 6) which do not include any internal conductors printed therein (fig. 6); disposing one of the two additional ceramic sheets on an upper surface of the laminate (top, fig. 6; and disposing the other of the two additional ceramic sheets on a lower surface of the laminate (bottom, fig. 6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add the additional ceramic sheets on the top and bottom as taught by Murai in the electronic device of Sakai, in order to get better covering and protection for the laminated electronic device.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiaoliang Chen whose telephone number is (571)272-9079. The examiner can normally be reached on 8:00-5:00 (EST), Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jinhee Lee can be reached on 571-272-1977. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Xiaoliang Chen/
Examiner, Art Unit 2841

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Art Unit 2841